

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for crystallization or dopant activation heat treatment of a semiconductor film films upon a thermally susceptible non-conducting substrates ~~comprises~~, substrate, comprising:

(a) installing an induction coil in close proximity of a semiconductor film films on a non-conducting substrate substrates lying onto a susceptor, ~~wherein the winding configuration of~~ ~~said induction coil is set in such a way being disposed so that the~~ electrical current direction ~~of inductor~~ is aligned parallel to the in-plane direction of said semiconductor films, film; and

(b) ~~inducing introducing~~ introducing an alternating electrical current in ~~to~~ said induction coil to ~~introduce~~ generate an alternating magnetic field ~~to~~ through said semiconductor film films heated by said susceptor to the extent that ~~the~~ said semiconductor film films can be induction-heated.

2. (currently amended) The method of claim 1 wherein said semiconductor film is an ~~films are silicon~~ films ~~being~~ amorphous silicon film films or a crystalline silicon film films, and wherein said thermally susceptible non-conducting substrate ~~is a substrates~~ are glass and or a plastic substrate ~~substrates~~.

3. (currently amended) The method of claim 2 wherein said silicon films are film is an amorphous film films deposited onto ~~the glass~~ said substrate for the purpose of crystallization, or

a polycrystalline film ~~films~~ ion-implanted with a ~~dopant~~ (n-type or a p-type) dopant for the purpose of electrical activation.

4. (currently amended) The apparatus method of claim 1 wherein the ~~alternating~~ frequency of said alternating current ~~of~~ in said induction coil ~~is ranged from~~ varies between 10 Hz ~~to~~ and 10 MHz.

5. (currently amended) The method of claim 2 3 wherein ~~crystallization of amorphous silicon~~ is film is deposited onto said substrate through solid phase crystallization, metal-induced crystallization, and/or metal-induced lateral crystallization.

6. (currently amended) An apparatus for heat treatment of a semiconductor film ~~films~~ upon a thermally susceptible non-conducting ~~substrates~~ comprises, substrate, comprising:

(a) an induction coils coil installed in close proximity ~~of~~ to a semiconductor film ~~films~~ on a non-conducting substrate ~~substrates~~, wherein the winding configuration of said induction coil is set in such a way that the current so that the electrical current direction of inductor is aligned parallel to the in-plane direction of said semiconductor film, film; and

(b) a susceptor installed below said non-conducting substrates, wherein the susceptor heats the substrate to heat said semiconductor film ~~films~~ to the extent that the said semiconductor film ~~films~~ can be induction-heated.

7. (currently amended) The apparatus of Claim 6 wherein said semiconductor ~~films~~ are film is a silicon film ~~films~~ deposited on ~~the~~ glass said substrate, in the form of either amorphous

state crystallizing into polycrystalline in the case of crystallization heat treatment, or polycrystalline state implanted by ~~dopants~~ + an n type or a p type dopant + in the case of dopant activation heat treatment.

AB

8. (currently amended) The apparatus of ~~claim~~ claim 6 wherein said susceptor is made of metal or graphite with a high conductivity providing the *in-situ* heating capability to the susceptor under the alternating magnetic field through a heating mechanism of eddy currents (i.e., induction heating).

9. (currently amended) The apparatus of ~~claim~~ claim 6 wherein said susceptor is made of an electrically ~~non-conductor~~ nonconductive material for preventing the susceptor from being heated ~~under the by an~~ alternating magnetic field generated by said coil, and the wherein said susceptor is designed to be independently heated using an external heat source such as a resistance heater or a lamp heater.

10-16. (withdrawn)